

Living Well With a Volcano in Your Backyard

Living with a **VOLCANO** in Your Backyard
MOUNT RAINIER



Grade Level: 3–2

Learner Objectives:

Students will:

- Recognize the benefits and attractions of living near a volcano
- Balance concerns about volcanic unrest with the recognition that volcanoes can be safe and desirable destinations

Setting: Classroom, assembly, home

Timeframe: Variable

Stories about an Imaginary Eruption—
30 minutes

Poll Attitudes about Volcanic Hazards
Homework; 50 minutes class

*Begin a Pen Pal Program—*50 minutes

Volcanoes as Community Assets—
50 minutes

Cascade Volcanoes Influence the Vitality and Ecology of Your Community—
50 minutes

*Create a Mechanism Whereby a Cascade Volcanoes Can Bring Economic Benefit to Your Community—*50 minutes



**Living with a Volcano in Your Backyard—
An Educator's Guide with Emphasis on
Mount Rainier**

Prepared in collaboration with the National Park Service

U.S. Department of the Interior
U.S. Geological Survey

General Information Product 19

Overview

This activity invites students to examine the advantage of living near an active volcano.

*Draw a Picture or Write a Story about a Visit to a Cascade Volcano—*50 minutes

*Make a Paper Cone Representation of Mount Rainier—*30 minutes

Materials:

Stories About an Imaginary Eruption

- Writing materials

Poll Attitudes about Volcanic Hazards

- Community cooperation

Begin a Pen Pal Program

- Library or Internet Resources
- Educators at schools in communities near other volcanoes

Volcanoes as Community Assets

- Library or Internet Resources

Cascade Volcanoes Influence the Vitality and Ecology of Your Community

- Library or Internet Resources

Create a Mechanism Whereby a Cascade Volcano Can Bring Economic Benefit to Your Community

- Library or Internet Resources

Draw a Picture or Write a Story about a Visit to a Cascade Volcano

- Drawing materials

Draw a Picture or Write a Story about a Visit to a Cascade Volcano

- Volcano cone cutout (provided)
- Drawing materials

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Living Well With a Volcano

Chapter 3

Living Well With a Volcano in Your Backyard-continued . . .

Vocabulary: Eruption, geothermal, lahar, lava flow, volcanic ash, volcanic gas

Skills: Apply, interpret, participate, explain

Benchmarks:

See benchmarks in Introduction.

Teacher Background

Student fascination with volcanoes is almost universal. The risk from volcanoes in the Pacific Northwest adds some complexity as some students' homes, schools, or places where their parents work are at risk from the effects of eruptions and lahars. Balance the emphasis of hazards and recommendations with any or all activity procedures *A* through *H*. Recommendations address community involvement and the benefits of living near a volcano.

Prepare Students:

Before conducting this activity, students should have knowledge of volcanic processes and Mount Rainier volcanic hazards. As appropriate, show older students one or more of the videos, **Understanding Volcano Hazards, Perilous Beauty—The Hidden Dangers of Mount Rainier**, or instruct them to obtain information from the Internet and library research. For younger students, conduct the activity **Volcanic Processes** in Chapter 2.

Procedures

Choose from any or all of these activities for your students.

A. Stories about an Imaginary Eruption

Students write a story about an imaginary eruption at a Cascade volcano and how they and their classmates respond to it. Your class may have already recorded their ideas about this scenario in **Eruption**, the first activity in Chapter 1. If so, advise students to compare their earlier story with their present one and report on how their ideas have changed.

B. Poll Attitudes about Volcanic Hazards

Students design and conduct a survey about volcanic-hazards knowledge in the classroom, school, or community. The survey should capture opinions on what measures should be taken for education and protection from volcanic hazards. Report the results of your poll to your class and to your school safety officer.

C. Begin a Pen Pal Program

Start a Pen Pal program for your students with others who live in the vicinity of other Cascade volcanoes, or at other volcanoes around the world. Students can learn about other volcanic areas and communities at risk by researching the Internet.

Living Well With a Volcano in Your Backyard-continued . . .

D. Volcanoes as Community Assets

Students use library and Internet searches to investigate how volcanic eruptions around the world can be beneficial to towns or nearby communities and then make a poster, report, or computer presentation about their findings. Their findings should include some of the following concepts:

- ◆ **Lava flows** add new land to Earth's crust
- ◆ **Volcanic gases** developed Earth's atmosphere
- ◆ Volcanic rocks provide building stones, gemstones, natural abrasive material, and raw material for early man's tools
- ◆ **Geothermal** steam can be used for indoor heating
- ◆ Geothermal energy converts steam to electrical power. It is a clean energy resource in some areas of the world
- ◆ **Volcanic ash** contains minerals that enrich the farmlands
- ◆ Spectacular scenery is created
- ◆ Volcanoes generate income from tourism

E. Cascade Volcanoes Influence the Vitality and Ecology of Your Community

Students use the library and Internet to investigate the different ways a Cascade volcano currently influences the ecology and vitality of nearby communities. Water, glaciers, and tourism are some ideas for investigation.

F. Propose a Plan that Can Bring Economic Benefit to Your Community

Your class assembles a special committee to examine how having a nearby Cascade volcano can bring economic benefit to your community. Student groups might consider tourism, community artwork, signs, or other business and public projects that build on your community's close proximity to a beautiful Cascade volcano. Students work in groups to develop several plans and then write a plan of action and draw maps and pictures of their ideas. Students present their ideas to a local community group and encourage the group to use them.

G. Draw a Picture or Write a Story about a Visit to a Cascade Volcano

Invite students to draw a picture or write a story about a recent trip to Mount Rainier or another Cascade volcano. Invite students to express their feelings about the beauty of the volcano and its ecosystems and share their creation with the class.

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H. Make a Paper Cone Representation of Mount Rainier

Students color, cut, fold, and glue the model included in this activity. This project works best when photocopied with enlargement on 11 x 17-inch paper (see graphic). Assess the student's ability to understand how to apply their knowledge of volcanic hazards on a local and a global scale.

I. School Volcano Museum

Choose any or all of these ideas for your students. After completion, display students' products in a "school volcano museum" for viewing by other students and by their families. Your museum can include emergency preparedness information and student projects from other activities, such as **Cascade Volcano Timeline**, **A String of Volcanoes**, **Play-Dough Topo**, **Planning your Trip to Mount Rainier National Park!**, and **The Next Eruption of Mount Rainier**.

Assessment

(A) Pay particular attention to how a student's ideas have grown between the first and last writing. Do students have a better understanding of the geologic processes common to Cascade volcanoes?

(B, C) Assess the student's ability to understand how to apply their knowledge of volcanic hazards on a local and a global scale.

(D, E and F) Assess the student's ability to apply their new knowledge about volcanoes to a real-world situation. Students who are beginning a study of volcanoes might not recognize that volcanoes can bring benefits to their community and to the world at large. To assess a student's current understanding, pay particular attention to their research findings, creativity and depth of involvement.

(G, H) Use standard rubrics to assess a student's ability to express their ideas in written form and to the class. Look for evidence that students have a greater familiarity with Mount Rainier or another Cascade volcano. Students might indicate a working knowledge of places they have visited or intend to visit.

References

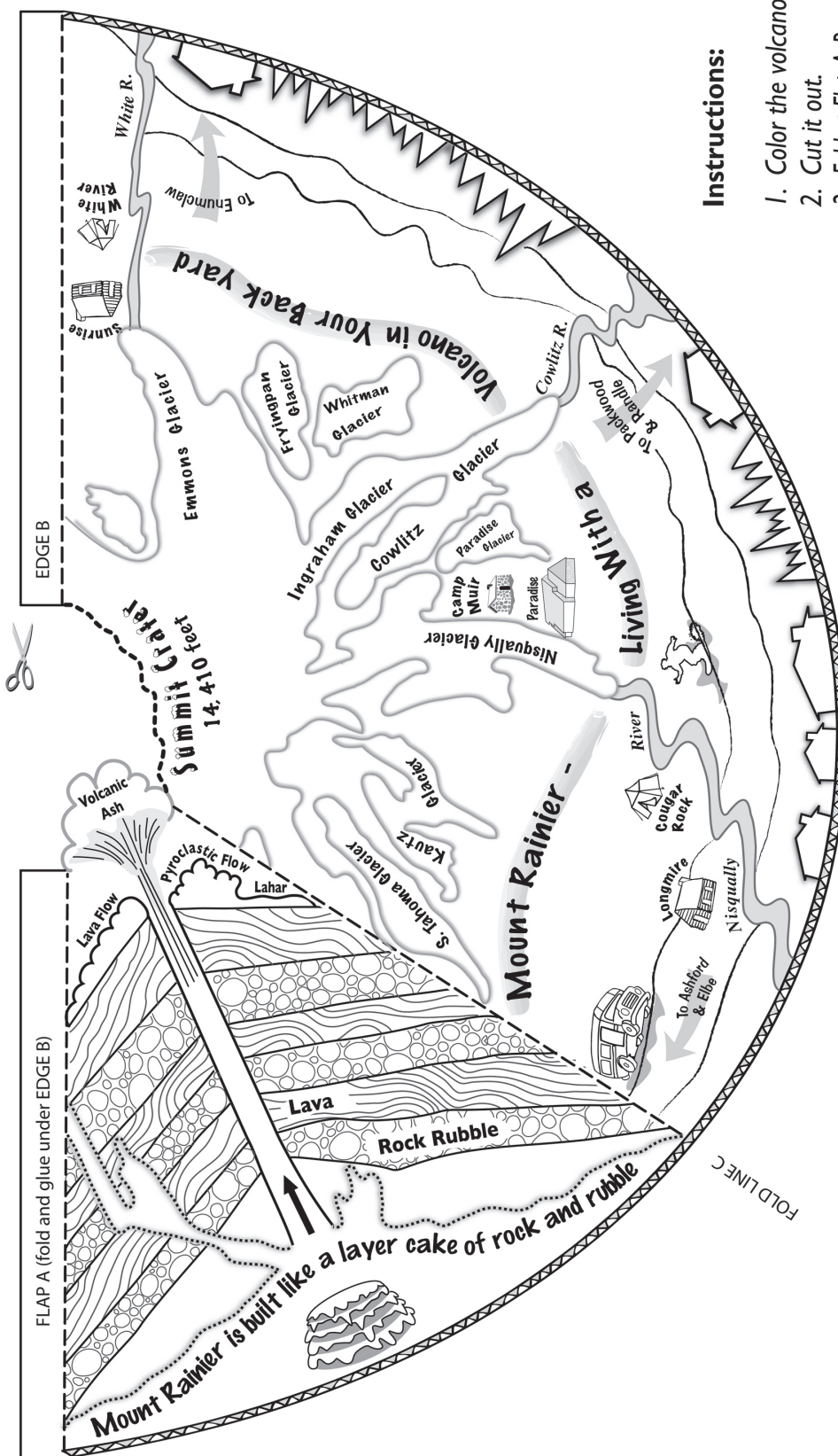
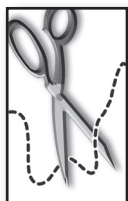
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Refer to **Internet Resources Page** for a list of resources available as a supplement to this activity.



Volcano Cone Cutout



Instructions:

1. Color the volcano.
2. Cut it out.
3. Fold at Flap A, B and Line C.
4. Glue Flap A to B.